



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,439	07/01/2003	Ilias Belharouak	Q170-US1	6593
31815	7590	11/30/2006	EXAMINER	
MARY ELIZABETH BUSH QUALLION LLC P.O. BOX 923127 SYLMAR, CA 91392-3127			MAPLES, JOHN S	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/612,439

Applicant(s)

BELHAROUAK ET AL.

Examiner

John S. Maples

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 65-81 ~~is/are~~ are pending in the application.
- 4a) Of the above claim(s) 2 is/~~are~~ withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-9, 65-81 ~~is/are~~ are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

Art Unit: 1745

1. Claim 2 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 19, 2006.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 80 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The expression "other carbon" found in lines 2-3 of claim 80 is indefinite since it is not known what is encompassed by the same.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3-7, 65-67, 81 are rejected under 35 U.S.C. 102(e) as being anticipated by Armand et al.-US 2004/0033360. (Armand)

Reference is made to the abstract of Armand along with paragraphs 1-9, 12, 18-19, 52-54, 65, 69, 73, 89-91, 112, 115, Examples 1', 2, 3 and 13. These portions teach

Art Unit: 1745

a method of making a battery where olivine is formed with a carbon coating thereon as a cathode material. The carbon is heated and forms a layer on the olivine. The claimed particular olivine compound, the reaction temperatures, carbon source gas, type of furnace and the amount of the carbon are set forth in the above noted portions of Armand. In view of the disclosure of the lithium battery, it is inherent that the cathode therein has "pores" into which the carbon would be deposited. The teaching in paragraph 81 of Armand sets forth the limitations of claim 81 where the carbon source is heated in situ to produce the carbon which is then coated on the olivine.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1745

8. Claims 68-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armand in view of both Goodenough et al.-US 5,910,382 (Goodenough) and Ravet et al.-CA-2,270,771. (Ravet)

The Armand publication teaches all of the claimed subject matter except for the carbon gas mixed with an inert gas, the coating on an aluminum current collector, the thickness of the carbon coating and the particulars of the battery. It would have been obvious to one of ordinary skill in this art to have utilized an inert gas in Armand to transport the reformed gas (see para. 73 in Armand). Also Armand recites an inert atmosphere in paragraph in 115 for reaction. The conductive additive of claim 69 could comprise carbon itself. Goodenough sets forth in column 1, lines 39-53; column 5, line 42-column 7, line 40, a non-aqueous battery comprising an olivine cathode material and the claimed particulars such as the current collector, the electrolyte, the salt and the particular anode electrode materials. It would have been obvious to one of ordinary skill in this art to have utilized the materials of Goodenough in Armand because the same would provide high energy output in a lithium battery. Ravet teaches an aluminum current collector for a battery including a carbon coated olivine-see pages 12 and 13 of Ravet (translated). To have included in Armand the aluminum current collector of Ravet would have been obvious because of the known high conductance and strength of this material. The various claimed thicknesses of the carbon layer on the olivine would have been obvious in view of the teachings of Armand because the same teaches in many portions including paragraphs 112 and 115, among others, that the amount of carbon

Art Unit: 1745


deposited can be controlled. Such teaching would allow for various thicknesses of the carbon layer depending on the desired result.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Maples whose telephone number is 571-272-1287. The examiner can normally be reached on Monday-Thursday, 6:15-3:45, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSM/11-27-2006


JOHN S. MAPLES
PRIMARY EXAMINER